REMARKS

Claims 1-15 are pending in this application. By this Amendment, claims 1, 8 and 9 are amended to correct minor formalities and are not amended in response to a substantive rejection of the claims over an applied reference. No new matter is added.

I. Claim Rejections Under 35 U.S.C. §112

Claims 1-15 are rejected under 35 U.S.C. §112, first paragraph. Claim 1 is identified as including a feature which fails to include antecedent basis. Claim 1 is amended in response to the rejection.

It is also alleged that claim 1 includes the recitation of "and is used to monitor treatment of the bed" which is alleged to lack support in the specification. However, as recited in the claim, the oxidation-reduction potential (ORP) is used to monitor treatment of the bath. The monitoring is conducted by measuring the ORP in the circulation line of the treatment bath solution. Use of the ORP as a measure to monitor the treatment bath is disclosed at least at page 10, lines 13-18 of the specification, as well as in original claim 15.

Moreover, the ORP can be controlled, in the case of a high ORP, by increasing the amount of anodic dissociation (Fe^{2+} is increased), or by decreasing the concentration of the treatment bath (less replenishment). Conversely, in the case of a low ORP, decreasing the amount of anodic dissociation (Fe^{2+} is decreased), by increasing the concentration of the treatment bath (more replenishment) or by removing N_2O_4 gas generated in the treatment bath. This control of the ORP is discussed throughout the specification (see, for example, page 24 of the specification). Accordingly, there is ample support in the specification for use of the ORP as a monitor treatment of the bath. Therefore, withdrawal of the rejection of claims 1-15 under 35 U.S.C. §112, first paragraph, is respectfully requested.

Claims 1-15 are also rejected under 35 U.S.C. §112, second paragraph. Specifically, claim 1 is again rejected for recitation of "and is used to monitor treatment of the bath." It is

alleged that there is no method step of "treating the treatment bath" in claim 1 and therefore it is unclear how the bath is being treated in order for the treatment to be monitored. However, as claim 1 recites monitoring the treatment bath through the use of the ORP, no further method step is required as the method of monitoring is not being claimed. Moreover, when read in light of the specification it is clear how such monitoring occurs, as discussed above.

Claims 8 and 9 are also amended for various informalities. As each claims 8 and 9 are amended in response to the objection, the rejection of claims 1-15 under 35 U.S.C. §112, second paragraph, is respectfully requested.

II. Claim Rejections Under 35 U.S.C. §103

Claims 1-15 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,645,706 to Matsuda. The rejection is respectfully traversed.

Matsuda fails to disclose or suggest each and every feature recited in the rejected claims. For example, Matsuda fails to disclose or suggest an electrolytic phosphate chemical treatment method of forming a film composed of a phosphate compound and a metal that is reduced and precipitated from an ionic state on the surface of a metal material article to be treated, comprising performing the electrolytic treatment on said article in a phosphate chemical treatment bath by contacting said metal material article having electrical conductivity with said phosphate chemical treatment bath containing phosphate ions, phosphoric acid, nitrate ions, metal ions that form a complex with the phosphate ions in said phosphate chemical treatment bath, and metal ions for which the dissolution-precipitation equilibrium potential at which the metal ions dissolved in said phosphate chemical treatment bath are reduced and precipitate as metal is equal to or greater than -830 mV, which is the cathodic reaction decomposition potential of water when indicated as the hydrogen standard electrode potential, and the treatment bath is substantially free of metal ions, other than those which are a component of the film which will form sludge; wherein, the oxidation-reduction

potential (ORP) of said phosphate chemical treatment bath indicated as the potential relative to a standard hydrogen electrode, is maintained at equal to or greater than 700 mV, and is used to monitor treatment of the bath.

It is alleged in the Office Action that Matsuda teaches that the phosphate chemical treatment bath contains no solid matter other than the "unavoidable components" which is alleged to mean that the bath is free of any sludge which might cause energy instability, that is, the bath is free of suspended particles which are reactive and could interfere with the reaction. It is then alleged that such a teaching would have suggested to one of ordinary skill in the art that the bath is substantially free of metal ions, other than those which are a component of the film which will form sludge.

Applicant disagrees with the supposition because the applied reference fails to disclose or suggest such an interpretation. For example, the reaction of the electrolytic treatment described in Matsuda accelerates the reactions in the Chemical Equations 1-8 described therein by supplying electrical energy. One of the reactions accelerated by the additionally supplied energy is anodizing which promotes a dissolution reaction of the material to be treated. Due to the dissolution of the material to be treated, i.e. the metal plates, there is no reason to believe that a sludge which is formed will be free of metal ions other than those which are a component of the film. Rather, Matsuda merely describes that the phosphate chemical treatment bath contains no solid matter other than unavoidable components. Thus, the dissolution of the material to be treated by anodizing would suggest to one of ordinary skill in the art that the component would be unavoidable. As the material to be treated is not necessarily a component of the film, the allegation that Matsuda suggests the claimed feature is inaccurate.

Moreover, the allegation that the pending claims are rendered obvious by Matsuda improperly relies on the benefit of hindsight to come to a determination of obviousness in

light of the applied reference. It appears that the interpretation of the indication in Matsuda that the sludge contains no solid matter other than unavoidable components is being interpreted to include those specific features recited in the rejected claims without actual support in the reference. Accordingly, withdrawal of the rejection of claims 1-15 under 35 U.S.C. §103(a) is respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-15 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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